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Tucson Electric Power Company

One South Church, Post Office Box 711
Tucson, Arizona 85702

September 1, 2011

Mr. Steven Olea
Director, Utilities Division
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Re: Tucson Electric Power Company's Semi-Annual DSM Report
Docket Nos. E-01933A-07-0402 and E-01933A-05-0650, Decision No. 70628

Mr. Olea,

Pursuant to ACC Decision No. 70628 (December 1, 2008) and Section 9.6 of the Tucson Electric Power Company Proposed Rate Settlement Agreement, dated May 29, 2008, Tucson Electric Power Company ("TEP") is required to submit semi-annual Demand-Side Management ("DSM") program progress reports on March 1st and September 1st of each year in accordance with Commission Staff's recommendations. Enclosed please find TEP's Semi-Annual DSM Program Progress Report for the reporting period of January 1, 2011 through June 30, 2011. The marketing materials for the reported DSM programs are being filed directly with Commission Staff on the attached CD.

On January 31, 2011 TEP filed its Energy Efficiency Implementation Plan wherein TEP requested that this reporting requirement be superseded by the reporting requirement in the A.A.C. R14-2-2409. The Commission has yet to approve TEP's Implementation Plan; therefore, TEP is submitting this report in compliance with Decision No. 70628 and R14-2-2409.

If you have any questions, please contact me at (520) 884-3680.

Sincerely,
Jessica Bryne
Jessica Bryne
Regulatory Services

Enclosures: Report and CD

cc: Docket Control, ACC
Barbara Keene, ACC (with CD)
Compliance, ACC
Shannon Kanlan, ACC

Tucson Electric Power Company

Semi-Annual Demand-Side Management Programs Progress Report

January – June 2011

Tucson Electric Power Company

SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:
January through June 2011

This progress report includes the following information for all Tucson Electric Power Company ("TEP") Demand-Side Management ("DSM") programs in place from January through June 2011, including programs for residential, non-residential, and low-income customers:

- a brief description of the programs;
- program modifications;
- program goals, objectives, and savings targets;
- levels of participation;
- description of evaluation and monitoring activities and results;
- kW, kWh, and therm savings;
- problems encountered and proposed solutions;
- costs incurred during the reporting period disaggregated by type of cost, such as administrative costs, rebates, and monitoring;
- findings from all research projects;
- terminated programs; and
- other significant information.

A summary detailing all DSM expenses by program is provided in Table 1; energy savings by program are provided in Table 2; cumulative energy savings as a comparison to the Electric Energy Savings Standard ("EEES") are provided in Table 3; societal benefits by program are provided in Table 4; lifetime environmental savings by program are provided in Table 5; a summary of participants, year to date expenses, and the yearly budget by program are provided in table 6; and savings and expenses by program since inception are provided in Table 7.

Tucson Electric Power Company

SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:
January through June 2011

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Tucson Electric Power Company

SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:
January through June 2011

Table 1

DSM PROGRAM EXPENSES: JANUARY - JUNE 2011

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Residential Programs								
Low-Income Weatherization	$ 146,465	$ 689	$ 915	$ 4,248	$ 327	$ 6,357	$ 1,766	$ 160,768
Guarantee Home Program	$ 162,550	$ 3,312	$ 13,438	$ 277,391	$ 19,443	$ 20,949	$ 3,070	$ 500,151
Shade Tree Program	$ 83,395	$ 580	$ -	$ 3,332	$ -	$ 3,707	$ 2,731	$ 93,746
ENERGY STAR® Lighting (CFL)	$ 656,981	$ 1,022	$ 708	$ 116,837	$ 3,045	$ 32,817	$ 13,604	$ 825,014
Efficient Home Cooling	$ 538,350	$ 1,245	$ -	$ 70,276	$ -	$ 25,268	$ 3,878	$ 639,016
Existing Home Program	$ 25,000	$ 23,083	$ -	$ 282,583	$ 48,219	$ 19,546	$ 6,883	$ 405,315
Res.& Small Bus. Direct Load Control	$ -	$ 22,206	$ -	$ 468,939	$ -	$ 21,586	$ 33,148	$ 545,879
Total for Residential Programs	**$ 1,612,741**	**$ 52,136**	**$ 15,061**	**$ 1,223,606**	**$ 71,034**	**$ 130,230**	**$ 65,081**	**$ 3,169,889**
Support Programs								
Education & Outreach Program	$ -	$ 264	$ 136,754	$ 70,371	$ -	$ 8,577	$ 938	$ 216,903
Residential Bill Comparison (Pilot)	$ -	$ 251	$ -	$ 197,947	$ -	$ 8,162	$ 65	$ 206,426
Total for Support Programs	**$ -**	**$ 516**	**$ 136,754**	**$ 268,318**	**$ -**	**$ 16,739**	**$ 1,002**	**$ 423,329**
Commercial Programs								
Non-Residential Existing Facilities	$ 644,433	$ 1,407	$ -	$ 342,299	$ -	$ 41,418	$ 17,892	$ 1,047,450
Small Business	$ 528,844	$ 1,929	$ -	$ 203,849	$ -	$ 30,535	$ 7,068	$ 772,224
Efficient Commercial Building Design	$ 5,298	$ 73	$ -	$ 47,980	$ -	$ 2,359	$ 3,944	$ 59,654
C&I Direct Load Control	$ -	$ 250	$ -	$ 196,171	$ -	$ 16,874	$ 844	$ 214,140
Total for Commercial Programs	**$ 1,178,575**	**$ 3,659**	**$ -**	**$ 790,300**	**$ -**	**$ 91,186**	**$ 29,748**	**$ 2,093,468**
Portfolio Totals	**$ 2,791,316**	**$ 56,310**	**$ 151,815**	**$ 2,282,224**	**$ 71,034**	**$ 238,156**	**$ 95,831**	**$ 5,686,685**

Program Costs	**$ 5,686,685**
Program Development, Analysis, & Reporting Software	**$ 365,561**
Baseline Study	**$ 13,205**
TOTAL	**$ 6,065,452**

Definitions

Rebates & Incentives – total amount spent on customer rebates, incentives, and payments made to agencies for installation of low-income weatherization measures.

Training and Technical Assistance – total amount spent on energy efficiency training and technical assistance. Training may be for utility employees or contractors.

Consumer Education – total dollars that are used to support general consumer education about energy efficiency improvements.

Program Implementation – program delivery costs associated with implementing programs, including implementation contractor labor and overhead costs, as well as other direct program delivery costs.

Program Marketing – includes all expenses related to marketing programs and increasing DSM consumer awareness (direct program marketing costs as opposed to general consumer education).

Planning and Administration – costs to plan, develop, and administer programs including management of program budgets, oversight of the request for proposal ("RFP") process, oversight of implementation contractors, program development, program coordination, and general overhead expenses.

Measurement, Evaluation, and Research ("MER") – identification of current baseline efficiency levels and the market potential of DSM measures; process evaluations; verification of installed energy efficient measures; tracking of savings; and identification of additional energy efficiency research.

Program Development, Analysis, and Reporting Software – costs to research and develop new DSM program opportunities, provide analysis of new programs and measures, and develop a database to track and report participation, savings, and benefits. These costs are essential to comply with reporting and rules requirements.

Performance Incentive – share (%) of DSM net economic benefits, capped at either 10% of net benefits or 10% of expenditures, whichever is less. The Performance Incentive was approved in Arizona Corporation Commission ("Commission") Decision No. 70628 (December 1, 2008).

Baseline Study – expenditures for a separate TEP Baseline Study approved in Commission Decision No. 71109 (June 5, 2009).

Tucson Electric Power Company

SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:
January through June 2011

Table 2

DSM ENERGY SAVINGS: JANUARY – JUNE 2011[1]

Program	Capacity Savings MW	Annual MWh Savings	Annual Therm Savings	Lifetime MWh Savings	Lifetime Therm Savings
Low-Income Weatherization	0.00	184	2,016	3,220	35,280
Guarantee Home	0.43	628	6,168	18,848	185,041
Shade Tree Program	0.00	308	0	9,245	0
ENERGY STAR® Lighting (CFL)	8.29	43,524	0	261,144	0
Efficient Home Cooling	0.52	1,046	0	15,684	0
Existing Home Program	0.01	114	0	581	0
Education & Outreach	0.00	37	2,136	277	21,358
Non-Residential Existing Facilities	1.51	10,747	0	188,908	0
Small Business	1.39	5,095	0	45,503	0
Efficient Commercial Building Design	0.02	53	0	1,060	0
C&I Direct Load Control	11.75	11,615	0	NA	NA
Portfolio Totals	**23.93**	**73,351**	**10,320**	**544,469**	**241,679**

Table 3

CUMULATIVE DSM SAVINGS: JANUARY – JUNE 2011

Year	Retail Energy Sales (MWh)	Incremental Annual Energy Savings (MWh)	Cumulative Annual Energy Savings (MWh)	Cumulative Annual Savings as a % of previous year Retail Sales	Cumulative EE Standard
2010	9,291,788				
2011		73,351	73,351	0.79%	1.25%

[1] Capacity savings for C&I Direct Load Control reflect the capacity available for reduction events. Annual MWh savings for C&I Direct Load Control reflect the credit available toward the EE Standard per A.A.C. R14-2-2404 (C).

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SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:
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Table 4

DSM Societal Benefits & Performance Incentive: January – June 2011

DSM Program	Program Cost	Societal Benefits	Societal Costs	Net Benefits
Residential				
Low-Income Weatherization [1]	$ 160,768	$ 111,003	$ 111,003	$ -
Guarantee Home Program	$ 500,151	$ 2,262,018	$ 980,413	$ 1,281,605
Shade Tree Program	$ 93,746	$ 425,630	$ 252,706	$ 172,925
ENERGY STAR® Lighting (CFL)	$ 825,014	$ 14,732,940	$ 1,434,175	$ 13,298,765
Efficient Home Cooling	$ 639,016	$ 1,350,070	$ 2,542,964	$ (1,192,894)
Existing Home Program	$ 405,315	$ 35,223	$ 442,786	$ (407,563)
Total for Residential	**$ 2,624,010**	**$ 18,916,884**	**$ 5,764,047**	**$ 13,152,837**
Non-Residential				
Non-Residential Existing Facilities	$ 1,047,450	$ 9,538,854	$ 1,976,620	$ 7,562,234
Small Business	$ 772,224	$ 3,551,704	$ 1,271,575	$ 2,280,129
Efficient Commercial Building Design	$ 59,654	$ 89,636	$ 74,112	$ 15,524
Total for Non-Residential	**$ 1,879,328**	**$ 13,180,194**	**$ 3,322,307**	**$ 9,857,887**
Portfolio Totals	**$ 4,503,338**	**$ 32,097,078**	**$ 9,086,354**	**$ 23,010,724**
Program Development, Analysis & Reporting Software	$ 365,561	$ -	$ 365,561	$ (365,561)
Baseline Study	$ 13,205	$ -	$ 13,205	$ (13,205)
TOTAL	**$ 4,882,104**	**$ 32,097,078**	**$ 9,465,121**	**$ 22,631,957**
Performance Incentive Calculation:				
Total Spending [2] / Total Net Benefits	$ 4,721,336			$ 22,631,957
10% of Spending / Net Benefits	$ 472,134			$ 2,263,196
Performance Incentive for 2011	$ 472,134			

1. Consistent with Commission Staff's analysis in Commission Decision No. 70456 (August 6, 2008), the societal benefits for low-income weatherization are equal to or greater than the societal costs when taking the environmental benefits into account.

2. Total spending does not include Low-Income Weatherization per Commission Decision No. 70628 (December 1, 2008), which approved the TEP Performance incentive calculation. The Performance Incentive allowed is capped at 10% of Net Benefits or 10% of total spending, whichever is less.

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SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:
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Table 5

DSM LIFETIME ENVIRONMENTAL SAVINGS: JANUARY – JUNE 2011

Program	Lifetime SO_X Reduction (lbs)	Lifetime NO_X Reduction (lbs)	Lifetime CO_2 Reduction (lbs)	Lifetime Water Reduction (gallons)
Low-Income Weatherization	6,933	8,365	6,581,422	1,481,063
Guarantee Home	40,584	48,967	38,274,076	8,670,141
Shade Tree Program	19,906	24,018	17,702,372	4,252,689
ENERGY STAR® Lighting (CFL)	562,295	678,452	500,041,101	120,126,230
Efficient Home Cooling	33,771	40,747	30,032,210	7,214,719
Existing Home Program	1,251	1,509	1,112,066	267,155
Education & Outreach	597	720	782,536	127,446
Non-Residential Existing Facilities	406,756	490,782	361,722,418	86,897,558
Small Business	97,977	118,216	87,129,165	20,931,276
Efficient Commercial Building Design	2,282	2,753	2,029,009	487,434
Portfolio Totals	**1,172,351**	**1,414,530**	**1,045,406,374**	**250,455,711**

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Table 6

DSM Summary of Participation and Expenses: January – June 2011[2]

DSM Program	Participants	# Measures	Expenses YTD	2011 Budget
Residential Programs				
Low-Income Weatherization	63	63	$ 160,768	$ 408,284
Guarantee Home Program	286	286	$ 500,151	$ 3,901,465
Shade Tree Program	634	1,590	$ 93,746	$ 164,800
ENERGY STAR® Lighting (CFL)	NA	707,572	$ 825,014	$ 1,581,507
Efficient Home Cooling	2,304	2,304	$ 639,016	$ 546,364
Existing Home Program	163	163	$ 405,315	$ 999,070
Res.& Small Bus. Direct Load Control	0	0	$ 545,879	$ 1,090,950
Total for Residential Programs	**3,450**	**711,978**	**$ 3,169,889**	**$ 8,692,440**
Support Programs				
Education & Outreach Program	19,502	248	$ 216,903	$ 526,206
Residential Bill Comparison (Pilot)	0	0	$ 206,426	$ 382,145
Total for Support Programs	**19,502**	**248**	**$ 423,329**	**$ 908,351**
Commercial Programs				
Non-Residential Existing Facilities	35	6,221	$ 1,047,450	$ 2,180,237
Small Business	97	15,980	$ 772,224	$ 2,180,237
Efficient Commercial Building Design	1	1	$ 59,654	$ 218,545
C&I Direct Load Control	18	NA	$ 214,140	$ 824,000
Total for Commercial Programs	**151**	**22,202**	**$ 2,093,468**	**$ 5,403,019**
Portfolio Totals	**23,103**	**734,428**	**$ 5,686,685**	**$ 15,003,810**

[2] TEP provides this table to comply with A.A.C. R-14-2-2409 (B)

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SEMI-ANNUAL DSM PROGRESS REPORT FOR THE PERIOD:
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Table 7

DSM SAVINGS & EXPENSES SINCE PROGRAM INCEPTION: JANUARY 1992 – JUNE 2011[3]

PROGRAM	Start Date	Program Participants/Units		Program Expenses		MW Savings		MWh Savings			Therm Savings		
		Jan - Jun	Program Inception to Date	Jan - Jun	Program Inception to Date	Jan - Jun	Total Annual [a]	Jan - Jun	Total Annual [a]	Program Inception to Date [b]	Jan - Jun	Total Annual [a]	Program Inception to Date [b]
Commercial													
Lighting	1992	0	1,118	$ -	$ 5,619,523	0.00	0.40	0	1,745	1,129,890	N/A	N/A	N/A
Motors	1993	0	228	$ -	$ 168,275	0.00	0.00	0	3	12,465	N/A	N/A	N/A
HVAC	1994	0	625	$ -	$ 917,246	0.00	0.09	0	168	34,245	N/A	N/A	N/A
Energy Services	1995	0	11	$ -	$ 854,603	0.00	0.63	0	3,294	79,278	N/A	N/A	N/A
Non-Residential Existing Facilities	2008	35	188	$ 1,047,450	$ 4,516,399	1.51	8.31	10,747	59,978	120,909	N/A	N/A	N/A
Small Business	2008	97	572	$ 772,224	$ 4,628,203	1.39	7.84	5,095	32,067	67,893	N/A	N/A	N/A
Efficient Commercial Building Design	2008	1	13	$ 59,654	$ 400,771	0.02	0.10	53	378	743	N/A	N/A	N/A
C&I Direct Load Control [c]	2010	18	18	$ 214,140	$ 249,394	11.75	11.75	11,615	11,615	N/A	N/A	N/A	N/A
Residential													
Good Cents	1994	0	1,462	$ -	$ 2,511,042	0.00	1.57	0	2,287	31,325	N/A	N/A	N/A
Eff. Allowance	1993	0	2,917	$ -	$ 3,825,566	0.00	0.56	0	817	89,815	N/A	N/A	N/A
Guarantee Home Program	1999	268	12,427	$ 500,151	$ 19,339,418	0.43	24.52	628	29,078	211,680	6,168	873,223	5,920,778
Shade Tree Program*	1992	634	70,216	$ 93,746	$ 2,341,808	0.00	0.25	308	8,089	44,697	N/A	N/A	N/A
ENERGY STAR® Lighting (CFL)	2008	707,572	3,174,701	$ 825,014	$ 4,067,963	8.29	32.40	43,524	180,964	399,353	N/A	N/A	N/A
Efficient Home Cooling	2008	2,304	9,642	$ 639,016	$ 3,058,623	0.52	2.75	1,046	6,190	14,523	N/A	N/A	N/A
Res.& Small Bus. Direct Load Control	2010	0	0	$ 545,879	$ 1,461,505	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Existing Home Program	2011	163	163	$ 405,315	$ 405,315	0.01	0.01	114	114	114	N/A	N/A	N/A
**No energy savings reported prior to 2005*													
Support Programs													
Education & Outreach	1993	19,502	503,223	$ 216,903	$ 9,096,020	0	N/A	37	37	37	2,136	2,136	2,136
Low-Income Weatherization**	1993	63	2,238	$ 160,768	$ 3,550,525	N/A	N/A	184	940	1,795	2,016	31,009	104,653
Residential Bill Comparison (Pilot)	2011	0	0	$ 206,426	$ 206,426	NA	NA	NA	NA	NA	NA	NA	NA
***No energy savings reported prior to 2007*													
Program Development, Analysis, & Reporting Software	NA	NA	NA	$ 365,561	$ 2,047,310	NA	NA	NA	NA	NA	NA	NA	NA
Baseline Study	2009	NA	NA	$ 13,205	$ 294,066	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL		**730,657**	**3,779,762**	**$ 6,065,452**	**$ 69,560,001**	**24**	**91**	**73,351**	**337,764**	**2,238,764**	**10,320**	**906,368**	**6,027,567**

a. Accumulated savings for one year for all energy efficiency measures installed since program inception.
b. Accumulated savings for all years for all energy efficency measures installed since program inception.
c. *Capacity savings for C&I Direct Load Control reflect the capacity available for reduction events. Annual MWh savings for C&I Direct Load Control reflect the credit available toward the EE Standard per A.A.C. R14-2-2404 (C).*

[3] Historical DSM Program annual savings will decrease as the measure lifetimes expire. Programs with fully expired lifetimes will no longer be reported. Historical programs include Lighting, Motors, HVAC, and Energy Services for commercial participants, and Good Cents and Eff. Allowance for residential participants.

TEP LOW-INCOME WEATHERIZATION PROGRAM

Description

The Tucson Electric Power Company ("TEP") Low-Income Weatherization ("LIW") Program is designed to improve the energy efficiency of homes for customers whose income falls within the defined federal poverty guidelines. Steps taken in the LIW Program will reduce gas and electric bills for eligible customers and improve comfort and quality of life. Energy savings realized from the LIW Program will allow low-income customers to better utilize the limited income they receive for other necessary items such as rent, food, or medical expenses.

Program Modifications

There have been no Program modifications since TEP's last reporting period.

Program Goals, Objectives, and Savings Targets

The objectives of the Program are to:

- Increase the number of homes weatherized each year;
- Reduce average household utility bills by utilizing energy conservation measures in the Weatherization Assistance Program rules; and
- Improve the quality of life for the customers by providing them with a safe and healthy home.

The 2011 goal is to weatherize 250 homes.

Levels of Participation

A total of 63 households received weatherization assistance during this reporting period.

Evaluation and Monitoring Activities and Results

The Arizona Energy Office ("AEO"), with billing data from TEP and other Arizona gas and electric utilities, is analyzing and tracking energy use in weatherized homes statewide. As their database grows, a more accurate analysis of the impact of weatherization activities will emerge. TEP will report energy savings from weatherization activities based upon the most recent AEO report. The AEO does not report any kW demand savings. The report is attached as Appendix 3.

The July 2011 AEO report is summarized below:

Utility Bill Analysis

- To date, an analysis of 235 homes has been completed on homes utilizing Arizona Public Service Company ("APS"), TEP, UNS Gas, Inc., UNS Electric, Inc., and Southwest Gas Corporation utility data. This analysis is ongoing, and new data will be updated to these values on a quarterly basis.
- Savings to Investment Ratios ("SIR") are provided for total investment from all funding spent (diagnostics, energy measures, health and safety measures) and for energy related measures only (diagnostics and energy measures).
- Present value is based on 17.5 years measure life, discount rate of 3% and a utility cost escalation rate of 3%.

- The combined SIR of all jobs reviewed to date for funds spent on diagnostics, energy measures and health and safety measures was 1.19. Health and saving represented 13% of expenditures.
- The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.35.
- The average saving per home reviewed was 2,667 kWh and 32 therms of natural gas (gas therms average includes all electric homes).

kW, kWh, and Therm Savings
The savings for this reporting period are listed below:

No. of Homes	kW savings	kWh savings	Therm savings
63	0.0	183,983	2,016

Savings are adjusted for line losses of 9.5% for both demand and energy (excluding therms).

Problems Encountered and Proposed Solutions
There were no significant problems encountered during this reporting period.

Costs Incurred
Costs incurred for the LIW Program during the reporting period are listed below:

DSM Program	Rebates & Incentives [a]	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Low Income Weatherization	$ 146,465	$ 689	$ 915	$ 4,248	$ 327	$ 6,357	$ 1,766	$ 160,768

a. Includes $14,596 for health and safety related repairs and $8,945 for Weatherization Agencies administrative expenses.

Findings from All Research Projects
No research projects were performed during this reporting period.

Other Significant Information
The agencies are on pace to utilize most or all of their funding for 2011. TEP continues to monitor the 25% allocation for health and safety expenditures for both agencies. Tucson Urban League is well below their funding percentage. However, Pima County's spending for this reporting period has been skewed towards health and safety and they have been advised to reduce spending in this area and to increase spending on energy efficiency measures. TEP has received assurance from the Director of Pima County's LIW program that health andsafety spending will be reduced dramatically for the remainder of 2011.

TEP GUARANTEE HOME PROGRAM

Description

The Residential New Construction Program for TEP is marketed as the Guarantee Home Program. It is a utility sponsored, energy efficient new home construction program based on a foundation of integrated building science. The Program emphasizes the whole-house approach to improving health, safety, comfort, durability, and energy efficiency. The Program includes on-site inspections and field testing of homes to verify that homes actually perform the way they were designed. Program standards are designed to focus solely on best case practice. Components of the Guarantee Home Program include development of energy efficient construction standards, branding, builder training curriculum, and marketing collateral.

Commission Decision No. 71638 (April 14, 2010) approved TEP's Pilot Zero-Net Energy Homes Program. This Program is an enhancement of the existing Guarantee Home Program. The tiered incentive structure will help promote increased levels of efficiency in new home construction.

Program Modifications

To increase cost efficiency of program delivery, inspections of Program homes will be conducted by the independent RESNET® home energy rater network beginning this year.

Program Goals, Objectives, and Savings Targets

The objectives of the Program are to:

- Reduce peak demand and overall energy consumption (electric) in new homes;
- Implement programs that include more aggressive energy efficiency standards that produce savings of at least 20 percent above baseline (HERS 70) and a near zero-net percentage of at least 50 percent (HERS 45);
- Stimulate the installation of solar photovoltaic systems and solar water heaters in new homes;
- Stimulate construction of new homes that are inspected and tested to assure energy performance;
- Stimulate the installation of high efficiency heating and cooling systems, envelope, lighting, and fixed appliances (Energy Star® products);
- Assist sales agents with promoting and selling of zero-net energy homes;
- Train builder construction staff and sub-contractors in advanced building-science concepts to reach zero-net energy goals through improved design and installation practices, and through the installation of renewable energy devices;
- Increase homebuyer awareness and understanding of the benefits they receive from living in a zero-net energy home and how they can improve the performance of their home;
- Educate builders who: 1) are not familiar with energy savings and on-site generation potential; 2) may be uncertain about zero-net energy performance; and 3) may be concerned about high initial costs for construction measures.

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Goals for 2011:

Tier Group by HERS	Target Goal: Number of Homes
Tier I < 85 HERS	300
Tier II < 70 HERS	600
Tier III < 45 HERS	150

Levels of Participation
A total of 286 homes were completed to Guarantee Home Program standards during this reporting period.

Meritage Homes, Pulte Homes, and Pepper-Viner Homes became the first builders to participate in the Zero-Net Energy Homes Pilot. 19 Tier III homes were completed in this reporting period.

Evaluation and Monitoring Activities and Results
Guarantee Home Program homes are inspected and tested to ensure standards are met. Billing data is monitored at each home's anniversary of completion. Customers are contacted when necessary to ensure their homes are performing as designed.

Navigant Consulting, Inc. ("Navigant Consulting") performed an evaluation of this Program for 2010. The evaluation resulted in a realization rate of 72% for demand savings and 92% for energy savings. However, after adding in line losses the final realization rates were 79% for demand and 100% for energy. This report was filed in Docket Nos. E-01933A-07-0402 and E-01933A-05-0650 on June 15, 2011. 2011 savings have been updated as a result of the 2010 evaluation.

kW, kWh, and Therm Savings

Measure Category	No. of Homes	kW savings	kWh savings	Therm savings
Tier 1	222	261	357,890	4,306
Tier 2	52	130	146,109	1,862
Tier 3	12	42	124,271	0
Totals	**286**	**433**	**628,271**	**6,168**

Savings are adjusted for line losses of 9.5% for both demand and energy (excluding therms).

Problems Encountered and Proposed Solutions
Pima County new homes sales remain very slow. There have been months where sales of foreclosed homes exceeded new home sales by a factor of five to one. The proposed solution is to have every new home be energy efficient and to leverage the higher levels of efficiency as a way for builders to differentiate their product from the foreclosed homes.

2011 represents a year of transition; EPA's Energy Star® version 2.5 will be in effect in 2011 and Version 3.0 will begin in 2012. The newer Energy Star® version 3.0 includes significant changes for the homebuilder and their subcontractors. Meetings and trainings with builder's representatives and their subcontractors will prepare area homebuilders for the new Energy Star® version.

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Costs Incurred

Costs incurred for the Guarantee Home Program during the reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Guarantee Home	$ 162,550	$ 3,312	$ 13,438	$ 277,391	$ 19,443	$ 20,949	$ 3,070	$ 500,151

Findings from All Research Projects

No research projects were undertaken during this reporting period.

Other Significant Information

In 2012 TEP will slightly modify its three tier program; the first level is on par with the current Guarantee Home Program and Energy Star® Version 2.0. This tier will require the thermal bypass checklist, tight envelopes and ducts, and a maximum HERS score of 85. Tier II will require Energy Star® Version 3.0 qualification and a maximum HERS score of 70. Tier III will start with Energy Star® Version 3.0 qualification and a maximum HERS score of 70, but will also incorporate renewable technology to achieve a maximum HERS score of 45.

In order to help establish a vibrant Home Energy Rating System marketplace in Southern Arizona, TEP plans to stop providing ratings December 31, 2011. The transition of inspections on Program homes being conducted by the independent RESNET® home energy rater network is well under way.

No new marketing materials were produced during this reporting period.

TEP EDUCATION AND OUTREACH PROGRAMS

TEP currently offers educational programs targeting both commercial and residential customers. TEP also offers an Academic Education Program for use in scholastic settings.

RESIDENTIAL AND COMMERCIAL EDUCATION

Description

TEP's residential and commercial education is designed to educate customers on energy use and assist them with energy savings suggestions. TEP's primary tool for energy savings suggestions is the online Energy Advisor which provides the customer with more than 140 energy savings recommendations or measures and can be personalized for weather and utility rates based on the customer's zip code. TEP promotes the Energy Advisor online audit through a variety of advertising promotions such as bill inserts, web advertising, and radio advertising. Also included is educational information on TEP's PowerShift™ Time-of-Use ("TOU") rates.

Program Modifications

TEP continues to market existing customer and academic education programs, including the Energy Advisor and TOU awareness using the venues listed below:

- Bill inserts and messages;
- Brochures;
- Paid web advertising;
- In-house advertising on tep.com;
- Media Q&A, newspaper and radio ads;
- Tradeshows/Community events and premium giveaways; and
- Call Center training.

An additional approach to outreach has been undertaken on a small scale. In collaboration with two local organizations, the Metropolitan Energy Commission ("MEC") and the Sonora Environmental Research Institute ("SERI"), TEP sponsored two eight-hour train-the-trainer sessions with volunteers and staff. These newly trained energy coaches have conducted several conservation workshops including hands on training and sample kits of efficiency items to be used at home. The workshop was also presented to a group of utility employees. Energy savings based on the kits provided to customers are reported in the All Education and Outreach Programs subsection below. Pending Commission approval of the TEP 2011-2012 Implementation Plan and its Behavioral Comprehensive Program, this early work will expedite roll out of the Community Education portion of that program.

Program Goals, Objectives, and Savings Targets

The Program is designed to educate commercial and residential customers on ways to save energy through conservation measures or utilizing TOU rates.

Levels of Participation

Energy Advisor

For this reporting period 2,143 residential customers and 238 commercial customers accessed the online Energy Advisor, with 857 residential customers and 28 commercial customers completing an online

energy audit. TEP continues to advertise the Energy Advisor along with other Programs within the Bright Solutions Family Campaign.

PowerShift™ TOU Customer Participation
180 on Rate 70NB
607 on Rate 70NC
578 on Rate 70ND
68 on Rate 201BN
12 on Rate 201CN

Other Residential TOU Customer Participation
2,499 on Rate 21 (frozen)
4,302 on Rate 70 (frozen)
521 on Rate 201B (frozen)
173 on Rate 201C (frozen)

Problems Encountered and Proposed Solutions
No problems were encountered during this reporting period.

ACADEMIC EDUCATION
Description
TEP offers school education programs that cover a variety of topics related to energy, natural resource conservation, and environmental awareness. These programs are offered to classes ranging from kindergarten through 8th grade. TEP provides age-appropriate curriculum with accompanying teachers' guides about electricity, energy efficiency, conservation and renewable energy. TEP's Academic Education Program features four programs in particular, including: the Insulation Station (for use in 4th grade); Energy Patrol (for use in any elementary school); Energy Conservation Bike/Solar Generation Presentations (for use in middle school); and the Electri-City Exhibit (for use in kindergarten through 3rd grade).

The *Insulation Station* (a program for 4th graders) was approved by the Commission in March 1993. The Insulation Station is a hands-on learning kit containing ready-to-assemble model houses and the necessary supplies to conduct science and math activities on insulation and home energy efficiency. Materials provided are model home kits and student workbooks containing charts, graphs, activities, and a home energy audit. TEP requires 4th grade teachers to attend a training session prior to receiving materials.

The *Energy Patrol* is an AEO-sponsored program for elementary school teachers and students approved by the Commission in March 1993. Students monitor classrooms to ensure that lights, computers, and water faucets are turned off when rooms are vacant. The program is designed to help schools reduce energy costs and to teach students and their families how to conserve energy.

The *Electri-City Exhibit* at the Tucson Children's Museum is designed to teach very young children (K-3) about saving energy, as well as electrical safety. TEP also underwrites tours for schools in low-income areas, provides age-appropriate materials to students, and trains docents to augment the presentation, which includes hands-on activities illustrating the energy saving lessons.

The *Energy Conservation Bike/Solar Generation Presentations:* During TEP's Energy Conservation Bike and Solar Generation Presentations, students use the Energy Bike to generate enough electricity to

light a light bulb, run a fan or heat up a hair dryer. They compare the amount of energy needed to light incandescent, CFL, and LED light bulbs, and learn about solar energy. Students explore ways they can help conserve energy at home and at school.

These classroom presentations about Energy Conservation are 50-60 minutes in length and include a pre-visit lesson and post-visit activity; all are aligned with the Arizona Department of Education middle school science standards. Pledge cards stating the students' intentions to save energy at home are collected for potential use to estimate savings.

Program Modifications
The Electri-City school tour and the Energy Conservation Bike presentation have been expanded to include information about renewable energy, specifically solar energy. Solar panels have been installed on the playhouse on the Tucson Children's Museum grounds, and a panel to operate small appliances has been added to the curriculum presented to children by the Museum docents, and to the teacher's guide provided to each teacher prior to the tour. The Energy Bike presentation now includes a demonstration solar panel, showing students how electricity is created from the sun with various hands-on illustrations of its use.

Program Goals, Objectives, and Savings Targets
These programs are all designed to educate students and their families on ways to save energy and to provide hands-on experiences, putting to test the options for saving energy.

Levels of Participation
The table below includes participation for the first six months of 2011, which reflects what we have learned from experience that most teachers order their materials, receive their trainings, and plan their special events during the fall of the previous year. TEP offers teacher trainings and distributes classroom materials.

Program	Number of Schools	Number of Students
Insulation Station*	**5 schools/** 13 teachers trained	295
Energy Patrol	**2 new schools**	1,100 est.
Energy Conservation/ Environmental classroom materials	**78 schools/** 159 teachers	11,981
Energy Efficiency Exhibit (TEP's Electri-City at the Tucson Children's Museum)**	**25 schools** 213 Adults	622***
Energy Conservation Bike / Solar Generation	**24 schools** 102 Teachers	2,741
TOTAL	**134**	**16,739**

*Numbers refer to teachers trained and kits ordered for students.

**Student numbers are those from "low-income" schools for whom TEP paid the entrance fee and bus transportation costs for guided tours of the *Electri-City Exhibit*. They do not reflect total Museum visitors to the site.

***Tucson Children's Museum tours during summer months are ordinarily small scout troops & summer programs (6-8 children) representing schools.

The Energy Conservation classroom presentation for middle schools that features the Energy Bike continued to grow in popularity, and the addition of the renewable energy component allowed additional funding and therefore, more presentations. During the first half of 2011, Environmental Education Exchange presented a total of 102 TEP Energy Bike presentations, teaching approximately 2,741 students in 24 schools. These included 1,654 6th graders; 261 7th graders; and 673 8th graders; as well as 153 "others" (classes of mixed grades). At the end of each session, students filled out pledge cards indicating at least three items they commit to do at home to help save energy, and each student was given a refrigerator magnet listing *10 Ways to Save Energy* to share with his/her family.

The Energy Bike team also made 10 community presentations at community events:

- Marana High School Family Academy Night;
- The Festival of Books at the University of Arizona campus (2 days);
- Future Innovator's Night during the Southern Arizona Regional Science and Engineering Fair week;
- Boxer Expo at Vail Academy and High School;
- Solar Rock at Armory Park;
- City of Tucson's Earth Day at Reid Park;
- Pima Community College (Northwest Campus location) Earth Day;
- Tucson Children's Museum Earth Day;
- Raytheon's Math, Science the Technology Funfest (3 days); and
- University of Arizona Earth Day Event.

ALL EDUCATION & OUTREACH PROGRAMS

Evaluation and Monitoring Activities and Results

No evaluation or monitoring is available as TEP is just beginning to claim energy savings for its current Education and Outreach Program. TEP has included new programs encompassing more significant neighborhood outreach, direct education, installation of energy saving items, and programs that affect consumer behavior in its 2011-2012 Implementation Plan. These expanded Programs are designed to allow for measurement and evaluation of energy savings.

kW, kWh, and Therm Savings

No. of Kits	kW savings	kWh savings	Therm savings
248	3	36,814	2,136

Savings are adjusted for line losses of 9.5% for both demand and energy (excluding therms).

Costs Incurred

Costs incurred for the Education and Outreach Program during the reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Education & Outreach	$ -	$ 264	$ 136,754	$ 70,371	$ -	$ 8,577	$ 938	$ 216,903

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Findings from All Research Projects
No research projects were performed during this reporting period.

Other Significant Information
The 2011-2012 TEP Implementation Plan includes a revised K-12 program focused on energy conservation and how to apply these concepts at home. Development of a revised K-12 curriculum is anticipated in the second half of 2011.

Other new programs in the newly filed Behavioral Comprehensive portfolio include Home Energy Reports, Community Education, CFL give-away and direct neighborhood canvassing.

No new marketing materials were produced during this reporting period.

TEP SHADE TREE PROGRAM

Description

The TEP Shade Tree Program has been in operation since December 1992. Desert-adapted trees are provided to individual residences, residential neighborhoods, and low-income families, as well as to community areas and schools through TEP's partnership with Tucson Clean and Beautiful ("TCB"). Residents are allowed two, 5-gallon trees per year (four for homes built before 1980), which must be planted on the south, west, or east side of the home. Residents complete an application provided by TCB either online or by mail which includes the type of tree requested and the location where it will be planted. The resident pays a nominal fee of $8.00 per tree, and the tree will be delivered to their home by TCB.

Program Modifications

No modifications were made during this reporting period.

Program Goals, Objectives, and Savings Targets

The objective of the Program is to promote energy conservation and the environmental benefits associated with planting low water use trees. Along with the energy savings trees provide to the homes, trees also provide habitat for wildlife, absorb air and water pollutants, and control storm water runoff and soil erosion, in addition to the aesthetic beauty they provide to neighborhoods and the community.

Program goals for 2011:

No. Trees Planted	4,000
kWh savings	708,000

Levels of Participation

For this reporting period, TCB delivered a total of 1590 trees as follows:

- 1,477 five-gallon trees were distributed to approximately 615 residential customers;
- 28 fifteen-gallon trees to eight schools; and
- 36 five-gallon trees and 49 fifteen-gallon trees were delivered to eleven community projects.

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2010. The evaluation resulted in a realization rate of 96% for demand savings and 100% for energy savings. However, after adding in line losses the final realization rates were 105% for demand and 110% for energy. This report was filed in Docket Nos. E-01933A-07-0402 and E-01933A-05-0650 on June 15, 2011. 2011 savings have been updated as a result of the 2010 evaluation. Additionally, after the evaluation report, Navigant Consulting has determined that the small demand savings may not be applicable, therefore TEP has decided to no longer report any demand savings.

kW, kWh, and Therm Savings

No. of Trees	kW savings	kWh savings	Therm savings
1,590	0.0	308,166	0

Savings are adjusted for line losses of 9.5% for both demand and energy.

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Problems Encountered and Proposed Solutions
Both TCB and TEP continue to refine their tracking and invoicing process. The only problems that have occurred during this reporting period were with some duplicate customers on TCB's invoice. They were quickly discovered during TEP's review process and TCB re-issued a corrected invoice.

Costs Incurred
Costs incurred for the Shade Tree Program during the reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Shade Tree	$ 83,395	$ 580	$ -	$ 3,332	$ -	$ 3,707	$ 2,731	$ 93,746

Findings from All Research Projects
No research projects were conducted during this reporting period.

Other Significant Information
No new marketing materials were produced during this reporting period.

TEP EXISTING HOMES RETROFIT AND RESIDENTIAL ENERGY ASSESSMENT PROGRAM

Description

The TEP Existing Homes Retrofit Program is designed to encourage homeowners to increase the energy efficiency of their homes. The Program provides incentives for high-efficiency heating, ventilation and air conditioning ("HVAC") equipment and for home performance services such as sealing leaky duct work, installing insulation, air sealing, and other thermal envelope improvements in existing homes. The Program provides direct incentives to participating contractors with the requirement that the incentives are passed on to utility customers as a line item credit toward approved Program measures. Along with the direct incentives TEP provides Building Performance Institute ("BPI") and Program administrative training and mentoring to the contractors to help them meet the Program requirements.

The Residential Energy Assessment Program ("REAP") is an integral component of the Existing Homes Retrofit Program. The major components of the REAP include a home energy assessment (or "audit"); a general appliance assessment; installation of up to ten compact fluorescent lamps ("CFLs") and one Advanced Power Strip per home. Education regarding behavioral changes, other TEP efficiency programs, rate options, and contact information to assist with questions are provided during the assessment. The assessment will also provide the homeowner information regarding possible energy savings by participating in the components of the Existing Homes Retrofit Program, as described above.

The Existing Home Retrofit Program received Commission approval on December 10, 2010, in Decision No. 72028, and the Residential Energy Assessment Program received Commission approval on January 6, 2011 in Decision No. 70263. While contained in separate decisions, the programs are designed to complement each other and are administered and reported as a single program. The Program will be marketed as the BrightSave Home Program, and replaces the previous Efficient Home Cooling Program.

TEP conducted an RFP process to select an Implementation Contractor ("IC") and Conservation Services Group ("CSG") was the successful bidder.

Program Modifications

Upon the initial public launch of the REAP in May 2011 several new homes, including some very large homes (one listed at 31,000 square feet), requested audits. In response new Program participation qualifications were instituted with the goal of reducing the number of audits being performed where little efficiency could be gained and/or the home size exceeded the programs economic model & technical parameters. The additional qualifications added are as follows:

- Homes must be constructed in or prior to 2005 to avoid testing the most energy efficient homes in the service territory. Homes built after 2005 may still be eligible for a REAP audit when referred as a "high bill" customer that may be experiencing atypical energy use due to acute design, equipment, or other issues.
- Homes may not exceed 3,500 square feet in conditioned floor area. This size designation was established to align with the Program's economic model which affords each audit be performed by a single auditor in a half-day increment. Homes over 3,500 square feet require either a full day to audit and/or multiple auditors to staff, significantly increasing the cost of the audit and significantly reducing the cost effectiveness. An additional technical consideration with some very large homes is that their HVAC systems often utilize commercial equipment outside the expertise of residentially trained technicians.

The following modifications and additions to incentivized retrofit measures have also been instituted:

- HVAC Early Retirement incentive qualification has been modified to include existing systems rated at 10.0 SEER or less (previously had to be less than 10 SEER);
- Air Sealing and Insulation credit for installing vertical insulation in the thermal plane of insulated attic spaces including knee-walls and skylight shafts;
- A $250 A/C upgrade incentive for swamp cooler replacements based solely on the new equipment meeting minimum Energy Star efficiency standards. The technical justification is identical to the existing ROB incentive designed to motivate customers to install more efficient equipment than currently required by code where other factors have already motivated them to install a new A/C unit; and
- Expanding solar shade screen and window film incentives to exposed easterly facing glazing.

TEP officially ended the Residential Efficient Home Cooling Program May 1, 2011. The contractors were given until May 31, 2011 to complete scheduled jobs and to submit all required paperwork for the participant rebates.

Program Goals, Objectives, and Savings Targets
The objectives of the Existing Homes Retrofit component of the Program are as follows:

- The proper sizing and quality installation of high efficiency HVAC equipment, sealing leaky ductwork, and installation of thermal envelope measures;
- Advance the building science skills of participating contractors leading to BPI certification; and
- Achieving designation as a Home Performance with Energy Star participating program.

The objectives of the Energy Assessment component of the Program are as follows:

- Assess how much energy a home is using and what measures can be taken to improve efficiency;
- Install up to ten (10) CFL's and one energy saving power strip; and
- Educate homeowners about applicable TEP rebates and simple behavioral modifications to increase energy efficiency.

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The 2011 program goals are:

Retrofit Measure	Goal
HVAC Replace on Burnout with Quality Install and Duct Sealing- Prescriptive	300
HVAC Replace on Burnout with Quality Install and Duct Sealing- Performance	100
HVAC Early Retirement with Quality Install and Duct Sealing- Prescriptive	200
HVAC Early Retirement with Quality Install and Duct Sealing- Performance	50
Duct Sealing- Prescriptive	300
Duct Sealing- Performance	200
Air Sealing	100
Air Sealing and Attic Insulation	100
Solar Shade Screens/Window Film	300

Energy Assessment Measure	Goal
Audits	1,000
Direct install- CFL	10,000
Direct install- Power strip	1,000

Levels of Participation

Efficient Home Cooling

For this reporting period, TEP paid rebates on 2,304 HVAC units as follows:

Quantity	Equipment Type	SEER	Incremental Cost
568	Air Conditioner	14	$426.03
177	Heat Pump	14	$415.31
203	Air Conditioner	15	$859.88
79	Heat Pump	15	$859.08
825	Air Conditioner	16	$1,306.85
60	Heat Pump	16	$1,269.03
197	Air Conditioner	17	$1,731.20
13	Heat Pump	17	$1,710.91
147	Air Conditioner	18	$2,048.91
35	Heat Pump	18	$1,874.60
2,304			

No Contractor rebates were paid during this reporting period. The IC, with TEP's permission, requested to process the Contractor rebates after all the participant rebates had been completed. Contractor rebate information will be reported at year-end.

BrightSave Home
The number of contractors recruited into the program is eighteen (18) of which ten (10) have achieved the BPI certification of participating staff. 163 audits were performed.

Evaluation and Monitoring Activities and Results
TEP will adopt a strategy that calls for integrated data collection, which is designed to provide a quality data resource for Program tracking, management and evaluation. This approach will entail the following primary activities:

- Database management: As part of Program operation, TEP will collect the necessary data elements to populate the tracking database and provide periodic reporting;
- Integrated implementation data collection: TEP will establish systems to collect the data needed to support effective Program management and evaluation through the implementation and customer application processes. The database tracking system will be integrated with implementation data collection processes;
- Field verification: TEP and/or the MER contractor will conduct field verification of the installation of a sample of measures throughout the implementation of the Program; and
- Tracking of savings using deemed savings values: TEP will develop deemed savings values for each measure and technology promoted by the Program and the MER contractor will periodically review and revise the savings values to be consistent with Program participation, and accurately estimate the savings being achieved by the Program.

kW, kWh, and Therm Savings

Efficient Home Cooling

No. of Units	kW savings	kWh savings	Therm savings
2,304	515.3	1,045,611	0

BrightSave Home

Measure	Units	kW Savings	kWh Savings
Air Sealing	0	0	0
Duct Testing & Repair	0	0	0
Early Retirement	0	0	0
Replace on Burnout	0	0	0
Shade Screens	0	0	0
Energy Audits	163	14	114,113
Totals	**163**	**14**	**114,113**

Savings are adjusted for line losses of 9.5% for both demand and energy.

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Problems Encountered and Proposed Solutions
The use of CSG's sophisticated Energy Measures software to refine energy saving estimates and performance testing has introduced an adaptation period during which refinements to conform to Program requirements and regional climate are ongoing. In addition, work is ongoing to calibrate the software's energy saving calculation models. TEP anticipates the software refinements and calibrations to be completed later this year.

Costs Incurred
Costs incurred for this Program during the reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Efficient Home Cooling	$ 538,350	$ 1,245	$ -	$ 70,276	$ -	$ 25,268	$ 3,878	$ 639,016

a. Includes $64,903 paid to KEMA, the IC for processing rebates.

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Existing Home Program	$ 25,000	$ 23,083	$ -	$ 282,583	$ 48,219	$ 19,546	$ 6,883	$ 405,315

a. Includes $28,674 paid to CSG, the IC.

Findings from All Research Projects
No research projects were conducted during this reporting period.

Other Significant Information
The timeline of key events during Program planning and launch is as follows:

November 2010	Final Implementation Contractor interviews conducted
December 2010	Letter of Intent issued to Conservation Services Group awarding contract as program implementation contractor
January 2011	Program staff hiring, BPI training and field certification
March 2011	REAP software, CSG's Energy Measure Home, completes UniSource Information Services and Security technical screening
March 2011	Program Launch for Contractors
April 2011	First TEP Contractor BPI Training
May 2011	Phase in of BrightSave Home incentives, phase out of Efficient Home Cooling Program incentives
May 23, 2011	Official media launch of REAP audits
June 2011	Efficient Heating and Cooling Program officially closed

In July of 2011 TEP will submit an application for the program to become Home Performance with Energy Star certified. TEP expects to achieve certification in August of 2011.

A list of new marketing materials is shown in Appendix 2 and available on the attached CD.

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TEP ENERGY STAR® LIGHTING PROGRAM

Description

The TEP ENERGY STAR® Compact Fluorescent Lamp ("CFL") Buy-down Program promotes the installation of energy efficient ENERGY STAR® approved lighting products by residential and small commercial customers in the TEP service territory. TEP provides funds to manufacturers of ENERGY STAR® approved CFL products to reduce the cost of CFLs. TEP then partners with local retailers to pass on these savings to the consumer.

Program Modifications

There have no Program modifications this reporting period.

Program Goals, Objectives, and Savings Targets

The program objectives are to:

- Reduce peak demand and overall energy consumption in homes and small businesses;
- Increase the purchase of CFLs;
- Increase the availability of energy efficient lighting products in the marketplace; and
- Increase the awareness and knowledge of retailers and TEP customers on the benefits of energy efficient lighting products.

Sales, demand, and energy savings goals for 2011:

Projected Lamp sales	1,139,320
Peak Demand Savings (kW)	5,814
Energy Savings (kWh)	64,067,811

Levels of Participation

A total of 707,572 CFLs were sold during this reporting period. CFL sales by retailer and number sold by wattage are listed in Appendix 1.

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2010. The evaluation resulted in a realization rate of 240% for demand savings and 121% for energy savings. However, after adding in line losses the final realization rates were 263% for demand and 133% for energy. This report was filed in Docket Nos. E-01933A-07-0402 and E-01933A-05-0650 on June 15, 2011. 2011 savings have been updated as a result of the 2010 evaluation.

kW, kWh, and Therm Savings

No. of CFLs Sold	kW savings	kWh savings	Therm savings
707,572	8,293	43,523,996	0

Savings are adjusted for line losses of 9.5% for both demand and energy.

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Problems Encountered and Proposed Solutions

As the Program matures, more people have used CFL bulbs for longer period of time. Program representatives are beginning to hear some complaints on the longevity of the bulbs versus manufacturers stated expectations. This is occurring across the country. TEP is advising customers that some behaviors, such as frequent switching on and off of bulbs, may affect their expected life. TEP continues to receive repeated requests for information on LED bulbs; however, Energy Star® rated LED products for residential use are slow in coming to market. TEP is exploring the addition of Energy Star® rated LED products to this Program.

A potential problem is the availability of rare earth minerals. CFL bulbs require these minerals to operate. Reduced availability may result in an increase in the price of CFL bulbs, which could negatively impact sales. A possible solution is to increase incentives to lower the price of the bulbs to consumers. TEP will continue to monitor the impact of the price increases on sales and adjust the program policies or incentives as needed.

There is confusion in the marketplace regarding the Energy Independence and Security Act ("EISA") and the resulting changes in incandescent bulbs that will meet the new efficiency standards. Customers and retail employees do not have a good understanding of the changes that are about to take place. TEP has been conducting training sessions for employees while at retail stores. In addition, a marketing piece has been developed that explains the phase out as mandated by the federal government. These are being handed out during store events.

Costs Incurred

Costs incurred for this Program during the reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
ENERGY STAR® Lighting (CFL)	$ 656,981	$ 1,022	$ 708	$ 116,837	$ 3,045	$ 32,817	$ 13,604	$ 825,014

a. Includes $113,990 paid to ECOS, the IC.

Findings from All Research Projects

No research projects were conducted during this reporting period.

Other Significant Information

TEP has found that retailer visits are playing a critical role toward the success of the Program. Visits focus on proper Program information and signage; ensuring product is displayed prominently; checking product inventory; and training staff on the benefits of Program participation. TEP performed 541 store visits during this reporting period. In addition, TEP held 82 aisle training events for retail employees.

TEP performed 32 week-end outreach events at various retailers during this reporting period. Outreach events consist of one or more TEP representatives promoting various CFL products and using a CFL lighting display to help educate customers. Outreach events typically last four hours. Retailers are very appreciative of this type of outreach to their customers and always encourage repeat events at their store.

Marketing efforts for this reporting period include:

- The Program was promoted at 15 speaking events during this reporting period;
- TEP has a bulb display showing incandescent vs. CFL bulbs. Customers can see the difference in energy used, brightness and colorization. A dimmable fixture and an LED were added to the

display. This display is used at in-store outreach events, schools, and other events where TEP is exhibiting;

- The bulb application guide was displayed at participating retail stores to help customers select the correct bulb for the correct application. The guide was modeled after the ENERGY STAR® guide;
- A bill insert was sent to over 320,000 TEP customers in their June/July bill;
- In support of Earth Day, ads promoting the benefits of CFL bulbs were placed in the Tucson area newspaper for five days;
- No calls were made to the 800 number during this reporting period;
- There were 1,705 hits on the web site for this Program. This is a 14% increase from the last reporting period. Of these hits, 749 went to the retail locator site to find out where to buy CFL bulbs. The website includes a calendar of events and a retailer locator page;
- A new marketing piece has been developed that explains the EISA standards and the changes being made to increase efficiency of incandescent bulbs.

A list of new marketing materials is shown in Appendix 2 and available on the attached CD.

TEP RESIDENTIAL BILL COMPARISON PILOT PROGRAM (HOME ENERGY REPORTS)

Description

The TEP Residential Bill Comparison Pilot Program will utilize Home Energy Reports designed to instigate behavioral changes in customers' energy consumption. The Program works by (1) making customers aware of their energy consumption; and then (2) allowing them to compare that usage to similarly situated homes. The concept is simple: once customers are able to compare their usage to similarly situated homes, sociological instincts take over and customers are induced to use less energy.

The Program will be referred to as the Home Energy Reports Program.

Program Modifications

There have no Program modifications this reporting period.

Program Goals, Objectives, and Savings Targets

The Home Energy Reports Program is designed to affect: (1) habitual behaviors like turning off the lights or adjusting the thermostat; (2) purchasing behaviors such as buying efficient light bulbs and appliances; and (3) the behavior of participating in utility demand side management ("DSM") programs by preparing reports that compare a customer's energy use to that of neighbors.

The major objectives from this Program are to:

- generate significant savings for DSM portfolio objectives;
- educate and empower customers to take advantage of other DSM programs;
- develop a positive utility image;
- promote efficient building operations; and
- lower energy bills for consumers.

Levels of Participation

The Program has yet to be implemented.

Evaluation and Monitoring Activities and Results

TEP will use an independent third-party measurement, evaluation and research contractor to evaluate the energy savings from the Program. Because behavior-based initiatives must provide a highly reliable evaluation protocol, TEP is proactively designing a protocol that will measure the impacts of the following:

- The Boomerang Effect, whereby low-energy users respond to the home energy reports by increasing their energy consumption;
- The Growth Decay Effect, to determine whether time has a growing (energy savings increase) or a decaying (energy savings erode) effect on the Program;
- Treatment Persistence, to determine whether energy savings persist after termination of the treatment (i.e., after the home energy reports stop); and
- The Rebound Effect, which will determine whether, after an extended period without treatment, a household may respond to renewed treatment with a savings surge.

A sampling strategy will be used to allow for evaluation of these aspects of the Home Energy Reports Program.

In accordance with Decision No. 72254, a measurement and evaluation report on the results of the Program will be filed within 90 days of the evaluation of Phase 1, with proposals regarding continuation, termination, redesign or expansion. The evaluation will be filed no later than December 31, 2012.

kW, kWh, and Therm Savings
There are no savings for this reporting period.

Problems Encountered and Proposed Solutions
No problems were encountered during this reporting period.

Costs Incurred
Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Residential Bill Comparison (Pilot)	$ -	$ 251	$ -	$ 197,947	$ -	$ 8,162	$ 65	$ 206,426

a. Includes $180,000 paid to Opower®, the IC.

Findings from All Research Projects
No research projects were undertaken during this reporting period.

Other Significant Information
The Program received approval in Commission Decision No. 72254 (April 7, 2011). TEP has contracted with Opower® to implement the pilot. Program integration with TEP information systems began late in the 2nd quarter of 2011.

TEP Residential and Small Commercial Direct Load Control Pilot Program

Description

The TEP Residential and Small commercial Direct Load Control ("DLC") Pilot Program is designed to determine if TEP can better manage peak demand and mitigate system emergencies through direct load control of residential and small commercial central air-conditioners ("AC"). The pilot program will test the use of two-way communication that sends load control signals to equipment at the home or business and also provides interval consumption data back to TEP for all participants. Participants will receive either: 1) a free thermostat that can be programmed manually or remotely via the internet; or 2) a load control device placed on their outdoor air conditioning unit. In exchange, customers will permit TEP to cycle AC units or raise thermostat temperature settings for a limited number of hours or events per year. TEP plans to operate the pilot over two full summer seasons to better assess the technology and the impact on peak load reduction.

Program Modifications

There have no Program modifications this reporting period.

Program Goals, Objectives, and Savings Targets

The primary objective of this Program is to confirm the feasibility and effectiveness of the direct load control of residential and small commercial air conditioners. Load impact results and customer feedback gained through the pilot program will enable a better assessment of cost-effectiveness of DLC and inform Program enhancements for a broader rollout.

Specific objectives for the pilot include the following:

- Refine estimates of load impacts through DLC;
- Test the effectiveness of the new generation of load control technology; and
- Assess the customer experience with load control events and different technologies

The goal is to recruit 600 residential and 200 small commercial customers to participate in the pilot.

Levels of Participation

Residential recruitment started in June 2011 with an email marketing request to customers for applications. Response rates are satisfactory. Small Commercial recruitment and installation is anticipated to proceed during the summer of 2011.

Evaluation and Monitoring Activities and Results

TEP will develop a detailed evaluation plan that will guide an ongoing impact, technology, and process evaluation. Elements of this plan are as follows:

- The impact evaluation will address the changes in demand during load control events. These changes in demand will be estimated using statistical regression modeling and by comparing the expected peak usage with the actual peak usage based on interval meter data.
- A technology assessment will address the accuracy, reliability, and customer acceptance of the various technologies associated with the DLC and Smart Grid architecture. These technologies include the customer-facing equipment such as in-home displays, smart thermostats, and web portals as well as back-end system such as interval meter data collection via broadband.

- The process evaluation will encompass a review of how well TEP has administered the Program and how customers perceived the Program. A Program delivery assessment will include interviews with TEP staff, vendors, and participants to identify program strengths, areas for improvement, and features that are preferred or disliked by customers. Customer feedback will be a major aspect of the process evaluation and will be obtained primary through surveys of at least a portion of participants at various stages of the Program implementation.

kW, kWh, and Therm Savings
There are no savings for this reporting period.

Problems Encountered and Proposed Solutions
There were unforeseen obstacles in information technology integration that created delays in implementation and extra costs. TEP has overcome these obstacles and begun installation of Program devices in residences. TEP anticipates it will schedule some load control events during the summer of 2011.

Costs Incurred
Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Res.& Small Bus. Direct Load Control	$ -	$ 22,206	$ -	$ 468,939	$ -	$ 21,586	$ 33,148	$ 545,879

a. Includes $401,332 paid to Tendril, the IC.

Findings from All Research Projects
No research projects were undertaken during this reporting period.

Other Significant Information
The Program received approval in Commission Decision No. 71846 (August 25, 2010). TEP has contracted with Tendril Networks and has purchased the equipment necessary to implement the pilot. Risk assessment and IT integration are complete, recruitment of residential participants is nearing completion, and installation of program devices is underway.

A list of new marketing materials is shown in Appendix 2 under Power Partners and available on the attached CD.

TEP NON-RESIDENTIAL EXISTING FACILITIES PROGRAM

Description

The TEP Non-Residential Existing Facilities Program is a multi-faceted program that will provide incentives to TEP's large commercial customers for the installation of energy-efficiency measures including lighting equipment and controls, HVAC equipment, motors and motor drives, compressed air, and refrigeration. Incentives are offered for measures in each of these categories. The Program also provides customers with the opportunity to propose innovative energy efficiency solutions through customer energy efficiency measures.

Program Modifications

No Program modifications were made during this reporting period. Additional energy measures and an increase in budget were requested as part of TEP's 2011-2012 Energy Efficiency Implementation Plan ("EE Plan"), which is pending Commission approval.

Program Goals, Objectives, and Savings Targets

The primary goal of the Program is to encourage TEP's large commercial customers to install energy efficiency measures in existing facilities. More specifically, the Program is designed to:

- Provide incentives to facility operators for the installation of high-efficiency lighting equipment and controls, HVAC equipment, premium efficiency motors and motor controls, energy efficient compressed air and leak-repair measures, and energy-efficient refrigeration system retrofits;
- Overcome market barriers including:
  - Lack of awareness and knowledge about the benefits and cost of energy efficiency improvements;
  - Performance uncertainty associated with energy efficiency projects; and
  - High first costs for energy efficiency measures.
- Assure that the participation process is clear, easy to understand and simple; and
- Increase the awareness and knowledge of facility operators, managers and decision-makers on the benefits of high-efficiency equipment and systems.

The savings goal for 2011 is 30,118 MWh.

Levels of Participation

There were 75 pre-applications and 9 final applications during this reporting period for prescriptive measures. In addition, there were 78 pre-applications and 24 final applications for custom measures. A total of $644,433 in rebates was paid to 35 participants. There were 9 cancellations of final applications.

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2010. The evaluation resulted in a realization rate of 72% for demand savings and 126% for energy savings. However, after adding in line losses the final realization rates were 79% for demand and 138% for energy. This report was filed in Docket Nos. E-01933A-07-0402 and E-01933A-05-0650 on June 15, 2011. 2011 savings have been updated as a result of the 2010 evaluation.

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kW, kWh, and Therm Savings

Measure Category	No. Installed	kW savings	kWh savings	Incremental Cost
Chillers	3	325	598,721	$108.00
HVAC*	62	64	64,089	$797.95
Motors	122	14	4,835,545	$135.47
Lighting	5,944	514	2,099,668	$53.04
Custom	90	590	3,148,656	$8,435.34
Totals	6,221	1,506	10,746,678	

**HVAC measures installed consists of 13 programmable thermostats and 49 AC or HP units*

Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

TEP has seen a significant increase in interest and participation in the Program during the first half of 2011. If the 2011–2012 EE Plan is not approved funds for this Program will be exhausted by the end of October. TEP anticipates approval of the EE Plan before October.

Costs Incurred

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Non-Residential Existing Facilities	$ 644,433	$ 1,407	$ -	$ 342,299	$ -	$ 41,418	$ 17,892	$ 1,047,450

a. Includes $267,508 paid to KEMA the IC.

Findings from All Research Projects

No research projects were undertaken during this reporting period.

Other Significant Information

Marketing efforts for this reporting period include:

- 93 presentations and sales calls given to:
  - various business associations and individual businesses;
  - municipal governments within TEP service territory;
  - school systems within TEP service territory; and
  - Davis-Monthan and Ft. Huachuca Military Base representatives.

A Trade Ally meeting was held in March 2011. Year end results were presented and goals for 2011 were outlined.

There were 2,107 web site hits for this Program, down about 20% from the last six months.

The TEP Commercial DSM Programs continue to be a key part of the City of Tucson Green Certification Program. Businesses participate to stretch their investment dollars. Program presentations are given each time a certification seminar is held.

Due to the increased volume of participation, KEMA hired an Outreach Representative for their team. This person calls on customers and helps them determine which program and what measures are best suited for their participation. The Outreach Representative is also heavily involved in marketing the program through presentations and outreach events.

KEMA has updated the web site and has two other marketing pieces under development. The rebate application is being modified in an effort to make it shorter and easier for customers to participate.

A list of new marketing materials is shown in Appendix 2 and available on the attached CD.

TEP SMALL BUSINESS PROGRAM

Description

The TEP Small Business Program is designed to minimize some of the barriers to implementation of energy efficiency improvements in the small business market, such as lack of capital, information search costs, transaction costs, performance uncertainty, and the so-called "hassle factor". Small firms generally concentrate on their core businesses, and do not have the wherewithal to analyze energy use and improve efficiency.

The Program is an upstream market program providing incentives directly to contractors for the installation of selected high efficiency lighting, motors, HVAC, and refrigeration measures. The incentives are set at a higher level for this market in order to encourage contractors to market and deliver the Program, thus offsetting the need for TEP marketing and overhead expenses. In order to further reduce overhead expenses, the Program has employed internet-based measure analysis and customer proposal processing which has made the process easier for both contractors and customers.

The Program includes customer and trade ally education to help them with understanding the technologies being promoted, what incentives are offered, and how the Program functions.

Program Modifications

No Program modifications were made during this reporting period. Additional energy measures and an increase in budget were requested as part of TEP's 2011-2012 EE Plan, which is pending Commission approval.

Program Goals, Objectives, and Savings Targets

The primary objective of the Program is to encourage TEP's small business customers to install energy efficiency measures in existing facilities. More specifically, the Program is designed to:

- Encourage small business customers to install high-efficiency lighting equipment and controls, HVAC equipment, and energy-efficient refrigeration system retrofits in their facilities;
- Encourage contractors to promote the Program and provide turn-key installation services to small business customers;
- Overcome the unique market barriers of the small business market including:
  - first costs and lack of access to capital for energy efficiency improvements;
  - lack of awareness and knowledge about the benefits and cost of energy efficiency improvements;
  - hassle and transactions costs; and
  - performance uncertainty associated with energy efficiency projects.
- Assure that the participation process is clear, easy to understand and simple; and
- Increase the awareness and knowledge of business owners, building owners and managers, and other decision-makers on the benefits of high-efficiency equipment and systems.

The savings goal for 2011 is 7,479 MWh.

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Levels of Participation
125 applications were received during this reporting period. There were 8 cancellations or 6.4%. A total of $528,844 in rebates was paid and 97 small businesses participated during this reporting period.

Evaluation and Monitoring Activities and Results
Navigant Consulting performed an evaluation of this Program for 2010. The evaluation resulted in a realization rate of 108% for demand savings and 123% for energy savings. However, after adding in line losses the final realization rates were 118% for demand and 135% for energy. This report was filed in Docket Nos. E-01933A-07-0402 and E-01933A-05-0650 on June 15, 2011. 2011 savings have been updated as a result of the 2010 evaluation.

kW, kWh, and Therm Savings

Measure	No. Installed	kW savings	kWh savings	Incremental Cost
Lighting	15,695	1,246	4,235,424	$56.36
Refrigeration	242	24	264,303	$194.80
HVAC*	43	0	153,631	$205.01
Totals	15,980	1,270	4,653,358	

**all HVAC measures consisted of programmable thermostats*

Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions
TEP continues to see an increase in interest and participation in the Program during the first half of 2011.

Lighting retrofit measures had the most participation, with 92% of all incentive dollars paid out for lighting projects. The high lighting volume is due in part to the emphasis placed on retrofitting T12 lighting systems prior to the EISA change in 2012 (in which T12 lighting systems will no longer be allowed). TEP is also seeing a decrease in size of the average project. This means more applications and increased paper flow to achieve the same savings goal. To date, there is no identifiable reason for this trend. More emphasis continues to be placed on other measures to increase the savings per dollar spent on the Program.

Costs Incurred
Costs incurred for this Program during the reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Small Business	$ 528,844	$ 1,929	$ -	$ 203,849	$ -	$ 30,535	$ 7,068	$ 772,224

a. Includes $150,591 paid to KEMA, the Implementation Contractor.

Findings from All Research Projects
No research projects were conducted during this reporting period.

Other Significant Information
Marketing efforts for this reporting period include:

- 93 presentations and sales calls made to:
  - various Business associations and individual businesses;

- municipal governments within TEP service territory;
- school systems within TEP service territory; and
- Davis-Monthan and Ft. Huachuca Military Base representatives.

A Trade Ally meeting was held in March 2011. Year end results were presented and goals for 2011 were outlined. Using certified contractors to help promote the Program has proven to be very successful.

There were 2,206 hits on the web site for this Program. This is a 5% reduction over the last reporting period. The web has proven to be a successful marketing tool for the Program.

Due to the increased volume of participation, KEMA hired an Outreach Representative to their team. This person helps customers determine which measures are best suited for their participation. This person is also heavily involved in marketing the program through presentations and outreach events.

The web site was updated. In addition, a new piece of literature has been developed promoting the commercial programs for TEP.

KEMA has established a sales call tracking data base that will help get more repeat business and help track detailed customer participation.

A list of new marketing materials is shown in Appendix 2 and available on the attached CD.

TEP EFFICIENT COMMERCIAL BUILDING DESIGN PROGRAM

Description

The Efficient Commercial Building Design Program is geared toward the building owner/developer and is designed to encourage improved building energy efficiency in new commercial construction compared to standard building practices.

The Program is a performance-based program that includes design assistance for the design team, performance-based incentives for the building owner and developer, and energy design information resources. Design assistance involves efforts to integrate energy efficiency into a customer's design process as early as possible. The Program provides incentives to offset the additional design cost of alternative, energy-efficient designs.

In addition to the design incentives and performance-based incentives for the building owner/developer, this Program provides technical support services to the design community. The Program provides consumer education and promotional pieces designed to assist building owners/developers in understanding various energy efficiency options and encourage them to explore energy efficiency options.

Program Modifications

No Program modifications were made during this reporting period.

Program Goals, Objectives, and Savings Targets

The primary goal of the Program is to encourage energy-efficient new building design for new, non-residential projects in TEP's service area. More specifically, the Program is designed to:

- Provide incentives to building owners/developers to design and build more energy-efficient buildings;
- Provide assistance to design teams to offset the additional cost and time of investigating more energy-efficient design;
- Overcome certain market barriers;
- Assure that the participation process is clear and easy to understand and does not unduly burden the design and construction time schedule or budget process;
- Increase the awareness and knowledge of building owners/developers, architects, engineers, and decision-makers on the benefits of high efficiency buildings design; and
- Encourage building owners/developers and the design community to consider energy efficiency options as early in the design process as possible.

The savings goal for 2011 is 1,832 MWh.

Levels of Participation

A payment $5,298 was made to one participant for a completed project. No payments were made for design assistance. $40,375 has been reserved for design assistance applications submitted and $67,043 has been reserved for projects to be completed.

Evaluation and Monitoring Activities and Results

Navigant Consulting performed an evaluation of this Program for 2010. The evaluation resulted in a realization rate of 18% for demand savings and 99% for energy savings. However, after adding in line

losses the final realization rates were 20% for demand and 109% for energy. This report was filed in Docket Nos. E-01933A-07-0402 and E-01933A-05-0650 on June 15, 2011. 2011 savings have been updated as a result of the 2010 evaluation.

kW, kWh, and Therm Savings

Measure	No. of Participants	No. of Buildings	kW savings	kWh savings	Therm savings
Whole Building Performance	1	1	20	52,982	0

Savings are adjusted for line losses of 9.5% for both demand and energy.

Problems Encountered and Proposed Solutions

The slow economy is creating declining interest for project development and design assistance. Longer lead times for active projects are preventing timely completion of new commercial developments.

Costs Incurred

Costs incurred for this Program during the reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Efficient Commercial Business Design	$ 5,298	$ 73	$ -	$ 47,980	$ -	$ 2,359	$ 3,944	$ 59,654

a. Includes $34,430 paid to KEMA, the Implementation Contractor.

Findings from All Research Projects

No research projects were conducted during this reporting period.

Other Significant Information

Marketing efforts for this reporting period include:

- 93 presentations and sales calls made to:
  - various Business associations and individual businesses;
  - municipal governments within TEP service territory;
  - school systems within TEP service territory; and
  - Davis-Monthan Air Force Base and Ft. Huachuca military representatives.

A new field manager was hired on April 11, 2011. He is tasked with Program promotion. His presence accounts for the increase in the number of presentations given. There were 1,578 hits on the website for this Program during this reporting period. This is down 18% from the last half of 2010.

New commercial construction requires a long lead time. From conception to completion construction can be 20 months or more. This and the current economic recession made the first half of 2011 a challenge. However, participation is slowly increasing and TEP is committed to making the Efficient Commercial Building Design Program a success.

The website was updated to include more reference material. A new marketing piece was developed promoting all the commercial programs offered by TEP.

A list of new marketing materials is shown in Appendix 2 and available on the attached CD.

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KEMA Expenses
Commission Decision Nos. 71820 (August 10, 2010) and 71836 (August 10, 2010) require TEP to report how much is paid to the IC (KEMA), by program and in total. KEMA Expenses are listed below:

KEMA Expenses for 2011 (Jan-Jun)			
Program	**Expenses**		**% of Total Program Expenses**
Non-Residential Existing Facilities	$	267,508	26%
Small Business	$	150,591	20%
Efficient Commercial Building Design	$	34,430	58%
Total	$	452,529	24%

TEP Commercial and Industrial Direct Load Control Program

Description

The TEP Commercial and Industrial ("C&I") Direct Load Control ("DLC") Program is designed to manage peak demand and mitigate system emergencies through a commercial and industrial load curtailment program. The Program is delivered on a turn-key basis by a third-party implementation contractor, who negotiates load reduction agreements with multiple customers and "aggregates" those customers to provide TEP a confirmed and guaranteed load reduction capacity available upon request. The goal of the Program will be to enroll enough customers to provide up to 40 MW of summer peak demand reduction, available for up to 80 hours per year, with a typical load control event lasting 3-4 hours.

Program Modifications

There have no Program modifications this reporting period.

Program Goals, Objectives, and Savings Targets

The primary goal of the Program is to provide up to 40 MW of summer peak demand reduction, available for up to 80 hours per year, in order to mitigate system emergencies.

Levels of Participation

18 participants representing 27 locations were enrolled as of June 30, 2011. A total commitment of 11,750 kW of load reduction is under contract. Five load control events were initiated during this reporting period as follows:

Date of Event	Duration of Event	kW Reduction
1/3/11	1 hour	7,719
2/2/11	1 hour	7,912
2/3/11	2 hours	8,013
2/3/11	1 hour	4,355
6/27/11	1.25 hours	11,627

Evaluation and Monitoring Activities and Results

Monitoring and evaluation of the Program will help ensure that the load curtailments are providing the megawatts for which TEP is paying and counting on for resource planning purposes. TEP will develop a detailed evaluation plan that will guide an ongoing impact and process evaluation. Elements of this plan are as follows:

- The impact evaluation will address the changes in demand during load control events. These changes in demand will be estimated using statistical regression modeling and by comparing each customer's expected usage during an event with their actual usage based on interval meter data during the event and in the days and hours prior to the event. The customer-specific load reductions reported by the DR provider will be verified, and system-wide reduction estimated using data from the entire summer season. Alternative baseline methodologies may be examined to assess whether alternative baselines provide a more accurate prediction of usage.
- The process evaluation will encompass a review of how well TEP and the selected third party implementation contractor has administered the Program and how customers perceive the

Program. A Program delivery assessment will include interviews with TEP staff, vendors, and participants to identify Program strengths, areas for improvement, and features that are preferred or disliked by customers. Customer feedback will be a major aspect of the process evaluation and will be obtained primary through surveys of at least a portion of participants at various stages of the Program implementation.

kW, kWh, and Therm Savings

The Energy Efficiency Standard allows a credit for demand response and load management programs per A.A.C. R14-2-2404 (C). Peak reduction capability may be converted to an annual energy savings equivalent based on an assumed 50% load factor. The credit shall not exceed 10% of the annual standard. The following table shows the allowable credit for this Program based on the available capacity reduction and the 10% cap.

No. of Participants	Availabe MW reduction	MWh savings credit
18	11.75	11,615

Problems Encountered and Proposed Solutions

There were no problems encountered during this reporting period.

Costs Incurred

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation[a]	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
C&I DLC	$ -	$ 250	$ -	$ 196,171	$ -	$ 16,874	$ 844	$ 214,140

a. Includes $185,031 paid to EnerNOC, the IC.

There is no customer interfacing hardware installed as part of this Program. However, 36 current transformers were installed for metering purposes at a total cost of $14,789. Of this total, $10,049 was for equipment and $4,740 was for labor.

Findings from All Research Projects

No research projects were undertaken during this reporting period.

Other Significant Information

More evaluation is necessary for TEP to report the energy shifted from peak hours, TEP's cost savings due to demand reduction & load shifting; and estimated cost savings to participants, as required by Decision No. 71787. This typically requires one year of Program implementation. TEP will report these items in the next semi-annual report.

No other significant information this reporting period. A list of new marketing materials is shown in Appendix 2 and available on the attached CD.

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TEP MISCELLANEOUS DSM INFORMATION

Description

TEP filed its 2011-2012 Energy Efficiency Implementation Plan ("Plan") on February 1, 2011, in accordance with Section R14-2-2405 of the Electric Energy Efficiency Standards ("EE Standards"). The Plan asks for continuance of existing DSM programs and the approval of new DSM programs, to be implemented either in 2011 or 2012. TEP is proposing the following new Residential, Commercial, Behavioral and Support DSM Programs: Multi-Family, Appliance Recycling, Schools Program, Combined Heat and Power Pilot, Retro-Commissioning, Bid-for-Efficiency, Behavioral Comprehensive (including K-12 Education, Direct Canvassing, Compact Fluorescent Bulb give-away, and Community Education), Residential Financing, and Codes and Support.

TEP has also researched new technologies for possible inclusion in future Plans. Two promising technologies include the Coolerado™, which is an advanced design evaporative cooling system, and the Ice Bear®, which is a small scale thermal storage system that makes ice during the nighttime hours which is then used to provide cooling during peak hours in the daytime. Both products have advantages, but TEP has determined that they are not cost-effective to implement at this time. TEP will continue to research these and other emerging technologies to help meet the future EE Standard.

In order to properly track and report the extensive energy savings and expenses associated with the EE Standards TEP has identified the need for a comprehensive tracking and reporting software solution. In March TEP submitted an RFI to 12 prospective vendors, and received ten responses. After evaluation TEP submitted a Request for Quote to the top two vendors in June. TEP plans to select a vendor during the 3rd quarter of 2011.

Commission Decision No. 71787 (July 12, 2010) requires TEP to include in its DSM reports information concerning DSM personnel including:

- number of DSM employees at the beginning of the reporting period;
- number of DSM employees added during the reporting period; and
- number of DSM employees at the end of the reporting period.

TEP's Demand Side Resources Group, which has responsibility for TEP's DSM Programs, had 11 full-time employees at the beginning of this reporting period. One full-time Program Manager was added, so there are now 12 full-time employees at the end of this reporting period.

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APPENDIX 1 – CFL SALES AND WATTAGE INFORMATION

CFL Sales by Retailer

Retailer	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
99 Cents	2,711	3,005	3,685	2,183	5,973	6,391							23,948
Ace Hardware	6,652	4,852	6,218	5,387	4,431	2,738							30,278
Albertsons	408	433	542	266	229	369							2,247
Best Buy	1	1	18	24	7	16							67
Costco	56,795	62,092	35,135	39,054	52,474	14,329							259,879
Dollar Tree													0
Family Dollar	915	1,110		1,009	428								3,462
Fry's Foods													0
Goodwill		52,368	52,506	3,972	1,222								110,068
Home Depot	25,244	25,981	26,365	23,825	25,302	18,598							145,315
Lowe's	7,463	6,418	11,647	6,349	3,548								35,425
Outreach				5,000									5,000
Sam's Club	4,768	4,910	3,890	3,710	2,760	2,417							22,455
Walmart	14,714	15,068	12,116	10,687	8,856	7,987							69,428
Utility Total	**119,671**	**176,238**	**152,122**	**101,466**	**105,230**	**52,845**							**707,572**

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KWH Savings by Wattage

Units	Watts	Watts Replaced	Watts Saved	Unit kWh Annual	kWh Annual
2,145	7	40	33	35	74,881
162	9	40	31	33	5,313
1,443	9	40	31	33	47,322
19,065	9	40	31	33	625,215
11,320	10	40	30	32	359,251
10,877	11	40	29	31	333,686
571	11	40	29	31	17,517
195	11	40	29	31	5,982
170	11	45	34	36	6,114
495	11	50	39	41	20,422
-348	12	60	48	51	-17,671
266,213	13	60	47	50	13,236,036
27,716	14	60	46	49	1,348,712
248	14	60	46	49	12,068
2,228	14	60	46	49	108,419
96,081	14	60	46	49	4,675,479
1,122	14	50	36	38	42,729
1,286	14	60	46	49	62,579
4,310	14	65	51	54	232,530
10,240	15	60	45	48	487,465
7	15	60	45	48	333
379	15	60	45	48	18,042
2,776	15	60	45	48	132,149
186	15	65	50	53	9,838
1,336	15	60	45	48	63,599
24,336	15	65	50	53	1,287,212
443	15	75	60	63	28,118
225	15	60	45	48	10,711
3,268	15	65	50	53	172,855
2,039	16	65	49	52	105,692
195	16	65	49	52	10,108
27,920	18	75	57	60	1,683,531
28	18	75	57	60	1,688
147	18	75	57	60	8,864
28,154	19	75	56	59	1,667,858
804	20	75	55	58	46,779
13,184	20	75	55	58	767,080
526	20	75	55	58	30,604
118	20	75	55	58	6,866
109	23	100	77	81	8,879
114,360	23	100	77	81	9,315,275
464	23	90	67	71	32,887
744	23	100	77	81	60,603
3,876	23	120	97	103	397,728
376	23	100	77	81	30,627
2,376	23	120	97	103	243,809
10	26	100	74	78	783
18,604	26	100	74	78	1,456,360
754	26	90	64	68	51,048
174	26	90	64	68	11,780
307	26	95	69	73	22,409
43	26	100	74	78	3,366
54	26	90	64	68	3,656
3	26	100	74	78	235
2,616	27	120	93	98	257,366
2	30	125	95	100	201
498	24.7	115	90	96	47,572
13	25.5	115	90	95	1,231
579	42	150	108	114	66,150
707,572			**Savings @ Meter**		**39,747,942**
707,572			**Adjusted for line Losses**		**43,523,996**

APPENDIX 2 – MARKETING MATERIALS

BrightSave Home:

- Brochure
  - TEP_BSH FINAL (pdf)
- Press Release
- Web Content

Commercial Energy Solutions:

- Window Clings
  - : WindowCling_TEPdrafts (pdf)

Energy Star Lighting:

- Ad
  - TEP_tucson_ad_3 22x5_print (pdf)
- Displays
  - tep ge_arizona_april (pdf)
  - tep_arizona_may (pdf)
- Web Content

EnerNOC:

- TEP-ENOC_Lunch_Invitation_v6_062811(pdf)

TEP Power Partners:

- BenefitGuide_01282011(pdf)
- TEP PowerPartners Web Content
- TEP_EnrollmentContent011211(pdf)
- TEP_EnrollmentCopy_01_04_2011_ ES TEPFinal

APPENDIX 3 – MEASUREMENT, EVALUATION, AND RESEARCH REPORTS

- Arizona Energy Office Training, Monitoring, and Evaluation Report – July 2011

ARIZONA GOVERNOR'S OFFICE of ENERGY POLICY
TRAINING, MONITORING AND EVALUATION REPORT
FISCAL YEAR 2011 ANNUAL REPORT
July 2011
Tucson Electric Power

Re: Arizona Department of Commerce Contract M030-08

Training and Monitoring for Weatherization

Southwest Building Science Training Center

The Southwest Building Science Training Center (Training Center), operated by the Foundation for Senior Living Home Improvement (FSL) and funded through the OEP and local utilities, provides Arizona low-income weatherization technicians with the knowledge and skills needed to successfully perform diagnostics and repairs on Arizona's housing stock. The Energy Office has entered into agreement with FSL to fund a full time position to develop, coordinate and implement a comprehensive training program at the training center and an administrative assistant position.

The Training Center has received permit approval to expand the training center by developing a multistory training lab that will be used to provide real world hands on training to the new green workforce. Funding has been committed utilizing American Recovery and Reinvestment Act of 2009 (ARRA) funds for the construction of an expanded diagnostic lab. Additional funding is being requested to address the additional requirements set forth by the City of Phoenix Development Services Department that was not accounted for in the beginning of the project. FSL has awarded the design contract to the architecture firm Moran Downes and it is expected that work on the new training lab will start later this year.

Training center courses
http://www.fsl.org/services/HomeEnergy/hecourses.html

The Center, in partnership with the Building Performance Institute, Inc. (BPI), provides nationally recognized building science certifications to Arizona's weatherization agencies. All agencies have BPI Certified staff members or contractors that are BPI certified.

In 2010-11 the Training Center has provided almost 10,000 hours of training hours (attendees times class hours) to over 500 course attendees. Since 2009 over 350 contractors have been certified through BPI.

Details on BPI
http://www.bpi.org/

The Training Center has implemented a WAP boot camp. The Boot Camp is a five day training that covers the basics of building science, pressure diagnostics, health and safety and residential energy auditing.

The Training Center has implemented the Weatherization (WAP) contractor mentorship program. The mentorship program is designed specifically to bridge the gap between classroom training and field experience by providing on the job training for new contractors. This training is provided by BPI certified contractors with a minimum of three year experience in Home Performance Contracting who have been approved through a review process. OEP will fund 16 hours of mentoring per contractor.

Local agencies have the ability to expand the hours of mentorship per contractor utilizing their training funds.

The Training Center has implemented a Lead Renovator Repair and Painting certification class. On April 22nd 2010 the new EPA Regulations went into effect regarding lead safe work practices. All contractors working on houses Pre-1978 are now required to be registered with the EPA as a lead renovator firm. Any contractors performing work on houses must now have at least one person on their crew that is "Lead Renovator" certified. This certification requires an 8 hour training which involves both a Power Point slide presentation and a "Hands On" section to teach lead safe practices when working on a home with a potential for Lead based paint. Certification requires the participant to pass both a written and field skills test.

The Training Center has implemented an OSHA 30 hour and 10 hour certification course.

The OSHA 30 Hour Construction Industry Outreach Training course is a comprehensive safety program designed for anyone involved in the construction industry. Specifically devised for safety directors, foremen, and field supervisors; the program provides complete information on OSHA compliance issues. OSHA recommends Outreach Training Programs as an orientation to occupational safety and health for workers covered by OSHA 29 CFR 1926

The OSHA 10 Hour Construction Industry Outreach Training Program is intended to provide an entry level construction worker's general awareness on recognizing and preventing hazards on a construction site. OSHA recommends Outreach Training Program courses as an orientation to occupational safety and health for workers covered by OSHA 29 CFR 1926.

The Training Center was also awarded a grant from the Department of Energy to expand the curriculum and tailor it towards the Auditor, Inspector and Crew Members of the technicians in the field. This is a two year grant that will help deliver the skilled workers that will be needed to conduct energy retrofits on existing housing.

Peer-to-Peer Fiscal and Technical Procedures

The Arizona WAP has formed peer-to-peer working groups that allow the fiscal and technical staff from the agencies and the OEP to meet and discuss issues that arise in the program. Agencies are able to share solutions to common problems and other information. These peer-to-peer meetings occur every two months and have been a great arena to discuss any changes or improvement to the program.

Agency Personnel Performance Reviews

A review and monitoring process to evaluate the competency of agency personnel performing the

various requirements of the weatherization program was developed for the statewide weatherization assistance program. Based on this process, additional one-on-one training and technical assistance is provided on an as-needed basis.

Inspections

The Arizona WAP has implemented a monitoring program that focuses on determining areas that need improvement and utilizes the monitoring process to implement needed changes. The areas covered include: auditing, diagnostics, testing and measures completed and program operations. This process begins with the review of 100% of the technical reports for auditing, diagnostics, testing and work completed each month. These reports can highlight instances where opportunities were missed or program requirements were not followed. When there are concerns with some element of the report, a site visit is conducted to address the concerns. At the job site, the diagnostic, testing and work are reviewed to determine if any improvements can be made. A minimum of 20% of the job sites will be visited with visits taking place approximately twice a month. Based on the site visit results, follow-up training and technical assistance is provided to the local agency. For agencies where the technical reports do not show concerns, the site visit consists of monitoring a number of randomly selected homes and reviewing the diagnostics, testing and work completed. These efforts, combined with the training and competence programs, have a goal of ensuring that the program is providing the clients with a high return on Southwest's investment, while maintaining or improving the customers' health and safety.

Utility Bill Analysis

To date, an analysis of 235 homes has been completed on homes utilizing APS, TEP, Unisource Gas and Electric and Southwest Gas utility data. This analysis is ongoing, new data will be updated to these values on a quarterly basis.

Provided are Savings to Investment Ratios (SIR) for total investment from all funding spent (diagnostics, energy measures and health and safety measures) and for energy related measure only (diagnostics and energy measures).

Assumptions

Present value is based on 17.5 years measure life, discount rate of 3% and an utility cost escalation rate of 3%.

Results Summary

The combined SIR of all jobs reviewed to date for funds spent on diagnostics, energy measures and health and safety measures was 1.19. Health and saving represented 13% of expenditures.

The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.35

The average saving per home reviewed was 2667 kWh and 32 therms of natural gas (gas therms average includes all electric homes).